

What is claimed is:

1. A method of treating or preventing a disorder, or a complication of a disorder, of an eye of a subject comprising contacting a vitreous and/or an aqueous humor with an effective amount of a composition comprising a truncated plasmin protein comprising a catalytic domain of plasmin (TPCD).
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2. The method of claim 1, wherein the TPCD has a molecular weight less than about 40,000 daltons.
3. The method of claim 1, wherein the TPCD has a molecular weight between about 20,000 and 30,000 daltons.
- 10 4. The method of claim 1, wherein the TPCD has a molecular weight of about 26,500 daltons in reduced form or about 29,000 daltons in non-reduced form.
5. The method of claim 1, wherein the TPCD has a molecular weight less than about 20,000 daltons.
6. The method of claim 1, wherein said TPCD is miniplasmin.
- 15 7. The method of claim 1, wherein said TPCD is stabilized miniplasmin.
8. The method of claim 1, wherein said TPCD is recombinant miniplasmin.
9. The method of claim 1, wherein said TPCD is stabilized, recombinant miniplasmin.
10. The method of claim 1, wherein said TPCD is microplasmin.
- 20 11. The method of claim 1, wherein said TPCD is stabilized microplasmin.
12. The method of claim 1, wherein said TPCD is recombinant microplasmin.
13. The method of claim 1, wherein said TPCD is stabilized, recombinant microplasmin.
14. The method of claim 1, wherein said TPCD is a variant of microplasmin.

15. The method of claim 1, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.
16. The method of claim 1, wherein the method reduces the viscosity of the vitreous.
17. The method of claim 1, wherein the method induces posterior vitreous detachment.
18. The method of claim 1, wherein the method reduces hemorrhagic blood from the vitreous and/or aqueous humor.
19. The method of claim 1, wherein the method reduces intraocular foreign substances from the vitreous and/or aqueous humor.
20. The method of claim 1, wherein the method increases the diffusion of an agent or a composition administered to the vitreous and/or aqueous humor.
21. The method of claim 1, wherein the method decreases extraretinal neovascularization.
22. The method of claim 1, wherein the composition is a liquid solution, and wherein the step of contacting the vitreous and/or the aqueous humor with the composition comprises injecting the liquid solution into the vitreous and/or the aqueous humor.
23. The method of claim 1, wherein the subject is a human.
24. The method of claim 1, wherein the method is performed in the absence of vitrectomy.
25. The method of claim 1, wherein the method is performed as an adjunct to vitrectomy.

26. The method of claim 1, wherein an effective amount of TPCD is in the range of 0.005 mg to 0.2 mg.

27. A method of treating or preventing a disorder, or a complication of a disorder of the eye of a subject, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof, comprising contacting a vitreous and/or aqueous humor with an effective amount of a composition comprising recombinant microplasmin or variants thereof, wherein the method results in vitreous liquefaction and/or posterior vitreous detachment.

28. A method of treating or preventing a disorder, or a complication of a disorder of the eye of a subject, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof, comprising contacting a vitreous and/or aqueous humor with an effective amount of a composition comprising stabilized, recombinant microplasmin or variants thereof, wherein the method results in vitreous liquefaction and/or posterior vitreous detachment.

29. A method of treating or preventing a disorder, or a complication of a disorder, of the eye of a subject, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery

occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma and retinitis pigmentosa, and any combination thereof, comprising contacting a vitreous and/or aqueous humor with an effective amount of a composition comprising recombinant miniplasmin or variants thereof, wherein the method results in
5 vitreous liquefaction and/or posterior vitreous detachment.

30. A method of treating or preventing a disorder, or a complication of a disorder, of the eye of a subject, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related
10 macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof, comprising contacting a vitreous and/or aqueous humor with an effective amount of a composition
15 comprising stabilized, recombinant miniplasmin or variants thereof, wherein the method results in vitreous liquefaction and/or posterior vitreous detachment.

31. A method of treating or preventing a disorder, or a complication of a disorder, of the eye of a subject comprising contacting a vitreous and/or aqueous humor with a composition comprising at least two TPCDs, wherein the eye disorder is selected from the
20 group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of
25 prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.

32. The method of claim 31, wherein the at least two TPCDs are selected from the group consisting of miniplasmin, recombinant miniplasmin, stabilized miniplasmin, stabilized, recombinant miniplasmin, variants of miniplasmin, microplasmin, recombinant microplasmin, stabilized microplasmin, stabilized, recombinant microplasmin, variants of
30 microplasmin and any combinations thereof.

33. A method of treating or preventing a disorder, or a complication of a disorder, of the eye of a subject comprising contacting a vitreous and/or an aqueous humor with a first composition comprising at least one TPCD, and a second composition comprising at least one TPCD, wherein the eye disorder is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.
34. The method of claim 33 wherein the first composition comprising at least one TPCD and the second compositions comprising at least one TPCD are selected from the group consisting of miniplasmin, recombinant miniplasmin, stabilized miniplasmin, stabilized, recombinant miniplasmin, variants of miniplasmin, microplasmin, recombinant microplasmin, stabilized microplasmin, stabilized, recombinant microplasmin, variants of microplasmin and any combinations thereof.
35. The method of claim 33, wherein the first composition comprising at least one TPCD and the second compositions comprising at least one TPCD are administered to the subject at substantially the same time or at different times.
36. A method of treating or preventing a disorder, or a complication of a disorder, of the eye of a subject comprising contacting a vitreous and/or aqueous humor with a composition comprising at least one TPCD and at least one second agent, wherein the eye disorder is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.

37. The method of claim 36, wherein the TPCD is selected from the group consisting of miniplasmin, recombinant miniplasmin, stabilized miniplasmin, stabilized, recombinant miniplasmin, variants of miniplasmin, microplasmin, recombinant microplasmin, stabilized microplasmin, stabilized, recombinant microplasmin, variants of microplasmin and any combinations thereof, and wherein the second agent is selected from the group consisting of hyaluronidase, dispase, chondroitinase, collagenase, RGD containing peptides, anti-integrin antibody, urea, hydroxyurea, thiourea, P2Y receptor agonists, angiogenic inhibitors, VEGF inhibitors, PlGF inhibitors and any combinations thereof.
38. A method of performing a vitrectomy in a subject comprising a step of contacting a vitreous and/or an aqueous humor with an effective amount of a composition comprising at least one TPCD.
39. The method of claim 38, wherein the contacting step is performed prior to the vitrectomy.
40. The method of claim 38, wherein the contacting step is performed at the same time as the vitrectomy.
41. The method of claim 38, wherein the TPCD is selected from the group consisting of miniplasmin, recombinant miniplasmin, stabilized miniplasmin, stabilized, recombinant miniplasmin, variants of miniplasmin, microplasmin, recombinant microplasmin, stabilized microplasmin, stabilized, recombinant microplasmin, variants of microplasmin and any combinations thereof.
42. The method of claim 38, wherein the subject is a human.
43. The method of claim 38, wherein the vitrectomy is performed to treat or prevent a disorder, or a complication of a disorder of an eye, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin

deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.

44. The method of claim 38, wherein the vitrectomy is carried out for a purpose
5 selected from the group consisting of reducing the viscosity of the vitreous, liquefying the vitreous, inducing posterior vitreous detachment, clearing or reducing hemorrhagic blood from the vitreous, clearing or reducing intraocular foreign substances from the vitreous, clearing or reducing materials toxic to the retina, increasing diffusion of an agent or a composition administered to the vitreous and/or aqueous humor, decreasing extraretinal
10 neovascularization and any combinations thereof.

45. The method of claim 38, wherein the composition is a liquid solution, and wherein the step of contacting a vitreous or aqueous humor with the composition comprises injecting the liquid solution into the vitreous or aqueous humor.

46. The method of claim 38, wherein an effective amount of TPCD is in the range of
15 0.005 mg to 0.2 mg.

47. A method of performing a vitrectomy in a subject comprising a step of contacting a vitreous and/or aqueous humor of an eye of the subject with an effective amount of a composition comprising a stabilized, recombinant microplasmin, before removal of the vitreous, and wherein the vitrectomy is performed to treat or prevent a disorder, or a
20 complication of a disorder of the eye of the subject, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin
25 deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.

48. A method of performing a vitrectomy in a subject comprising a step of contacting a vitreous and/or aqueous humor of an eye of the subject with an effective amount of a

- composition comprising a stabilized, recombinant miniplasmin, before removal of the vitreous, and wherein the vitrectomy is performed to treat or prevent a disorder, or a complication of a disorder of the eye, wherein the disorder of the eye is selected from the group consisting of retinal detachment, retinal tear, vitreous hemorrhage, diabetic vitreous hemorrhage, proliferative diabetic retinopathy, non-proliferative diabetic retinopathy, age-related macular degeneration, macular holes, vitreomacular traction, macular pucker, macular exudates, cystoid macular edema, fibrin deposition, retinal vein occlusion, retinal artery occlusion, subretinal hemorrhage, amblyopia, endophthalmitis, retinopathy of prematurity, glaucoma, retinitis pigmentosa, and any combination thereof.
- 5 49. A method of liquefying the vitreous of a subject comprising injecting a solution comprising an effective amount of a stabilized, recombinant microplasmin into the vitreous and/or aqueous humor of the subject.
- 10 50. A method of liquefying the vitreous of a subject comprising injecting a solution comprising an effective amount of a stabilized, recombinant miniplasmin into the vitreous and/or aqueous humor of the subject.
- 15 51. A method of inducing posterior vitreous detachment in an eye of a subject, comprising injecting an effective amount of a solution comprising a stabilized, recombinant microplasmin into the vitreous and/or aqueous humor of the subject.
- 20 52. A method of inducing posterior vitreous detachment in an eye of a subject, comprising injecting a solution comprising an effective amount of a stabilized, recombinant miniplasmin into the vitreous and/or aqueous humor of the subject.
53. A method of decreasing extraretinal neovascularization in an eye of a subject, comprising injecting a solution comprising an effective amount of a stabilized, recombinant microplasmin into the vitreous and/or aqueous humor of the subject.
- 25 54. A method of decreasing extraretinal neovascularization in an eye of a subject, comprising injecting a solution comprising an effective amount of a stabilized, recombinant miniplasmin into the vitreous and/or aqueous humor of the subject.

55. A composition comprising at least two TPCDs.
56. A composition comprising at least one TPCD and at least one second agent.